Chapter V
Analysis of Data

The data collected for the three teacher/student dyads studied included three videotaped lessons for each dyad, associated daily running records, lesson plans, and Observation Survey assessment scores. These data were sorted, and behaviors were assigned to categories. Three guiding questions facilitated the organization and analysis of the study.

Student Behaviors

The first guiding question concerns student behaviors during the orientation and first attempt of the new book:

> Question 1. What student behaviors exhibited during the orientation and first attempt to read the new book reflected growing independence within Reading Recovery lessons?

Student behavior was recorded on the running record the next day and reflected the student's emerging level of independence. The behavior of independence has the characteristics of unevenness, periodicity, and metamorphosis (Vygotsky 1978). Therefore, the data collected at the unit level suggested category definitions that could occur within any sentence, phrase, or word. When a miscue occurred, therefore, it might affect one word in a sentence or be the third miscue of that sentence. The measurement of the unit includes just the portion of reading that was in error. For example when Pete missed "and" in the phrase and also "cupboard," he was able to self-correct "and" but not "cupboard." Each miscue created a separate unit for analysis.

The observed behaviors were sorted into four defined categories to help keep the data manageable called:

a. Assisted behavior: The student was not able to proceed on text or task alone. The student was told specific vocabulary or was reminded about how to do a specific task or both. The teacher occasionally shared the reading task with the student. Example—When Pete did not remember how to read a sentence at Time I, Liz read it with him.

b. Assisted Dependent behavior: The student read with some critical, explicit help from the teacher. A student might stop and seek help, not remember things that the teacher had explained, or might not know how to respond to the teacher's prompt. Example—Sue tried to read her book at Time I but could not match her speech with the text so Gwen helped her gain control of the first sentence.

c. Assisted Independent behavior: The student was able to work independently. Either the student or the teacher initiated some teacher participation. Example—During Time II, Bill was trying to read and decided the work was too difficult. Nell clarified that what he was doing was correct and kept him reading. There was evidence of monitoring, rereading, and attempts to solve difficulties at the point of error.

d.   Independent behavior: The student knew how to read and solve most reading problems. Teacher support was less frequent but these were lessons and instruction occurred throughout the program. The student attempted new things, monitored, reread and in other ways took responsibility for the reading work.
Example—Although Pete could introduce his new book to himself, Liz gave him the word "sulks." She assumed the word was probably not in his vocabulary.

These four categories occurred in Times I, II, and III in varying degrees within each unit for each instructional dyad during the new book orientation and first attempt portions of the lessons. When the students knew less about the reading process, instances of assisted performance at difficulty occurred more frequently than in later times. On occasion, a student became confused and needed assistance when starting a new text; later in the same lesson, the student might be more independent. (Sue confused "said" for "showed" in her Time III reading. When the problem was solved, her reading improved, and she read the rest of the book independently. She learned to read The Loose Tooth by reading it.)

In the next day's running record, the teacher recorded student behaviors as the student read independently. At this time, independent behaviors established the day before reappeared or were neglected due to limited understanding of their application.

The New Book Introduction

The first half of the new book introduction was an orientation to the story. The second portion was the student's first attempt to read the book with some teacher support but usually the student did as much on his own as possible. During both the orientation and the first attempt, the teacher expected independent behavior. Appropriate scaffolding was provided to support success with the task be it orientation or the first attempt at reading the new book.

During the book orientation, the teacher's goal was to prepare the student for reading success. Originally the teacher used modeling of how to have a book discussion by using the illustrations and language of the text. The balance of the teacher and student participation in the book orientation was measured using the Book Orientation Check Sheet. (See Appendix F.) By the end of the student's program, orientations were independent. (A summary of Pete's independent development during orientations is provided in Appendix N.)

When the book orientation was completed, the student did a first attempt to read with some needed minimal support from the teacher. A summary of the data for the first attempt follows in Table 24.

Table 24. Reading Behaviors Observed During Book Orientation and First Attempt at Text Reading.

Behaviors	Student								
	Pete			Bill			Sue		
	Time			Time			Time		
	I	II	III	I	II	III	I	II	III
	Behavior During Book Orientation								
	AD	AD	AI	AD	AI	AI	AD	AD	AI
	Number Exhibited of Behaviors During First Attempt								
Assisted	7	1	4	0	7	0	1	1	1
Assisted Dependent	0	2	3	0	3	1	0	2	2
Assisted Independent	0	5	7	0	3	1	1	2	2
Independent Reading	5	15	10	8	5	1	4	6	12
Self-Correction of Miscues*	4	5	9	2	5	17	0	3	10
*Independent self-corrections									

Based on the categories in Part IV of the Book Orientation Check Sheet, teacher and student participation were each determined. (See Appendix F.) The context of story overview, important ideas, illustrations that indicated when events occurred in the story, hearing new words, structures from print, pictures, and language, and practice using initial letter for one or two words to identify those words in text were all parts of the orientation. These concepts were laid out in a four-choice scale: behavioral choices of Assisted, Assisted Dependent, Assisted Independent, or Independent. Since independence with a new book would suggest lack of opportunity for new learning, it was not surprising that it did not occur during the study.

During the Time III book orientations, Pete, Bill, and Sue were Assisted Independent performers. Bill also reached Assisted Independent performance in Time II. During the first attempts at reading, the students showed signs of independence all three times of their respective programs. (See Appendixes K, L, M.)

For Question 1, few examples of assisted behavior occurred in reading in Time I due to teacher (a) encouragement of functional independent and (b) scaffolding during both the book orientations and first attempts. In Time I, reading instruction had barely begun. The student's first attempt was based mostly on memory of the teacher's presentation of the story and a few things known about the language and reading process. For example, Bill used his memory of the book orientation to read and self-correct based on the illustrations. There were few examples of rereading or strategic reading work for self-correction.

In Time II, students had read more books and had practiced what they knew. They might still have problems with vocabulary and syntax. In Time III, students read even more text. The problems were confusions with new items of learning about text. For example, Bill had difficulties with the vocabulary in Going Shopping. Pete also got confused in Go Back to Sleep. Pete had the ideas of the story firmly in his head but could not read the word "screamed." The teacher scaffolds kept the

students performing like readers at each stage of development. Sue had trouble with "showed" and said "said." Gwen took her through the progressive steps for strategy work to get her back on the task with the text. (See Appendixes K, L, M.)

The dyads worked in instructional conversations. The teachers explained what should happen, and the students explained what they were trying to do. The students" conversation helped their teachers understand what the students were thinking when they tried to figure out text problems. Nell often told Bill she knew what Bill was trying to do. Early, the teachers led by questioning, initiated most thinking, and gave teaching explanations of what the students did correctly to reinforce their successful behaviors. Later students took over tasks. The students read more continuous text, and the teachers offered less support. A student might continue to work on text like Bill did with Help Me when he solved "out," tried it, monitored, and said he was correct.

A review of Saxes work as charted by Tharp and Gallimore (1988) and Wretch's definition of intersubjectivity (1984), suggested that discussion helped students become risk takers and develop independence as a disposition. The assistance was in a social context and interdevelopment (between two people) was observable in transcripts as students interacted with their teachers. The student's intradevelopment (within the learner's head) was indicated by student behaviors of attempts, self-corrections, rereading, and reading. Another example of intradevelopment occurred the next day on the running record and other reading work in successive lessons.

In Time II and Time III, accruing knowledge of reading was reflected in decreased assistance by the teacher and increased independent behaviors by the students. The students" behaviors of reading, monitoring, checking, rereading, and self-correction were examples of control of the reading task and stretched across texts. In Time III, fewer examples of self-corrections were observed because fewer miscues occurred, more vocabulary was anticipated or recognized, and some possible miscues were corrected before verbalization occurred.

Explaining student and teacher behaviors across time helps reveal the reading task and the gradual assumption of control of that task by the students. The lesson plan was one source of data indicating the progress of learning (Appendix O). With Painting, Peter's reading improved as noted on the next day's running record. He recognized "and" and reread it easily with only "cupboard" and "then" as miscues. His use of story syntax was successful and supported accurate reading. (See Appendix I.) In Time II, the next day's running record of Go Back to Sleep shows that Pete reread to self-correct and had a meaningful though inaccurate miscue with "yelled" for "screamed." (See Appendix P.) In Time III, there were few miscues in the total running record of yesterday's new book.

In Time I, students were taught skills to behave like readers, how reading and books work, and how to monitor their own reading process. They learned to match spoken to written words; to use some vocabulary; and to use meaning, picture cues, and syntax to assist them while reading. This early instruction empowered the student to evaluate success while reading text. This fostered independence and allowed the student to be functionally independent before fully understanding the reading process. The scaffold and the supportive texts selected also helped the student.

For example, in Time I, Pete's whole story was a single sentence, a difficult linguistic form to deal with (Petersen, 1991). To help him, Liz told him vocabulary words that he couldn't read to keep him behaving like a reader as he progressed through text. Bill knew his story of patterned sentences and supportive pictures. Sue had difficulty matching the text to her speech until Gwen got her started and then Sue miscued only twice.

In Time II, the students" applied known strategies, learned new strategies, and dealt with the intricacies of text as they monitored their own progress. The students were more able to retain the meaning of the text while struggling with a reading difficulty. They continued to work on difficult text until a solution emerged, and they responded to teacher prompts. A great deal of new learning occurred as the books gradually became longer and more complex.

For example, in Time II, Pete was using memory for story to build on his reading. When he had difficulty with "screamed," Liz wanted him to remember the story and use visual cues to self-correct "yelled" (miscue), to "screamed" as the text read. Bill doubted that he could read the new text. Nell kept him reading by reassuring him of his success so far. He resisted new vocabulary by telling Nell how hard the book was and often guessed a word instead of using cues. When Sue had problems, Gwen said, "Try it and see if you are right." This kept Sue behaving like a reader to discover what was correct.

In Time III, the students used appropriate strategies with occasional teacher support. When reading difficulties occurred, the students generally kept the story in memory when the reading stopped, accepted an occasional teaching point, and helped themselves. At each stage the students learned from the teachers, the text, and the results of effort as independence increased. An example was Bill in <u>Help Me</u>. He was not sure of "out," thought of the optional words, and then confirmed orally that the word was "out". Independence now meant to have control of the reading process. The teacher prompts were needed less often during in new learning situations or with student confusions. Student progress was exhibited by reading abilities.

For examples, in Time III, all of the students could orient the text for themselves using picture support. They had some confusion and needed minimal teacher support. Liz helped Pete before he began reading because she assumed he would not know the word "sulks." Nell gave Bill the words "gnawed" and "who." She also supplied the word "help." Sue was reading confidently but said "said" for "showed," which fit the syntax of the sentence. Gwen guided her with steps to think through the word. These students were now strategic readers working in their zones of proximal development (Bruner, 1984; Campione, Brown, Ferrar, & Bryant, 1984); they have been taught to integrate the reading process and read in a phrased and fluent manner and they did.

<u>Degrees of Independence</u>

Independence increased both with the same book for two successive days (first attempt and next day's running record) and from early lessons to end of program lessons. Several kinds of behavior were labeled independent as students matured. They were:

1.   Student functional independent ability that occurred when the student was encouraged to bring background knowledge to the task of reading. In the beginning, the teachers drew participation from the students by showing them things they could do like pointing for a one-to-one match of text and talk. In Time I, Pete remembered the orientation and used the pictures and sentence pattern to get lines of text correct. These behaviors enabled students to act independently because of good orientation scaffolds. In early lessons, teachers focused on story theme and meaning. The student knew few words, and picture cues supported memory for the meaning of the text and the language of the book.

2.   Student ability to read new text moved from the functional to a more reading-based level where the student could apply developing strategic knowledge to the new book. The teacher participated with questioning prompts to help the students experience how the strategy was implemented. The prompts (such as, does it look right, sound right, or make sense) told the student how to think about a miscue (Fraiser, 1991; Elliott, 1994). These were examples of scaffolding (Wood, Bruner, and Ross, 1976). In <u>Go to Sleep</u>, Pete knew more about words and confused "really" with "reading." He knew that what he said was not correct. He discussed his confusion with Liz (Pinnell, 1993; Kelly, Klein, & Pinnell, 1994).

3.   The student gained more reading ability and generalized new skills and strategies to other texts and situations. This is when student behaviors "go underground" and are not readily observed. The student was a reader. This stage fit the concept that students can push the boundaries of their own learning and use what they know to learn more about the task they are attempting to solve (Clay, 1999; 2002).

After reading <u>Cow Up A Tree</u>, Pete summarized the whole book by saying they should have done that in the first place! He had moved beyond the text. Also, in Time III, Sue was doing most of the reading work (correcting miscues on her own). Gwen's participation was limited. As Sue progressed, she discovered new things about reading that become obvious when Sue did things she was not taught to do. (See Appendix Q.)

These evolving efforts suggested the development of independence as a personal disposition (Katz, 1985) that could generalize to other problem situations. Gardner (1991) finds the deposition for independent learning lacking in too many students who finish public school.

Signs of Growing Independence Seen During Instruction

Table 25 lists Pete's attempts which provided an example of student growth and a record of the behaviors occurring during Times I, II, and III, as well as the gradual shifts in behavior that

occurred. These were Pete's initiated attempts to solve reading problems (coded ATT in the table). In Time I, Pete made only one attempt. Usually, early attempts were rare and seldom successful as evidenced by subsequent teacher behaviors. This was because student understanding and experiences were limited.

Table 25. Pete: Attempts (ATT—Student Effort to Solve Reading Problem)

Line	Behavior*		
	Student	Teacher	Overall
Time I			
11	(ATT) (B)	(QMB), (T), (TP-LW) (T) (QM)	Assisted
Time II			
1	(ATT) (R)		Independent
2	(ATT) (R)		Independent
3	(ATT) (R)		Independent
10	(ATT) (R)	(T)	Assisted
12	(ATT) (R)		Independent
16	(ATT)	(QM), (QM)	
16	(ATT)	(AC)	
16	(ATT) (SC)		Assisted Independent
17	(ATT) (MC)	(QV)	
17	(ATT) (R)		Independent
18	(ATT) (R)		Independent
Time III			
2	(ATT)	(TTA)	
2	(SC) (A)		Independent
3	(ATT)	(TTA)	

3	(SC)	(PR)	Independent
4	(ATT) (P) (ATT)	(T)	Assisted Dependent
5	(ATT)	(PR) (D) (T)	Assisted
8	(ATT) (B) (SC) (R)		Independent
12	(ATT) (R)		Independent
13	(ATT) (MC)	(E) (T) (TTA)	Assisted Independent
16	(ATT) (MC) (M)	(QM-QV)	
16	(ATT)	(QM)	Independent
20	(ATT)	(CC)	Independent

Key

Student Behaviors

A	Accuracy
ATT	Attempt
B	Blank (pause)
MC	Miscue
M	Monitor
R	Reads
SC	Self-correct

Teacher Behaviors

AC	Accept and correct
CC	Scaffold Confirms
E	Explains
D	Direct
PR	Praise
QB	Questions behavior
QM	Questions. meaning
QV	Questions visual use
TP	Teaching point
T	Told
TTA	Try that again

Note:Full definitions and complete list of codes are given in Appendix G. Lesson chart given in Appendix A.

These three times indicated increasing development and maturity as the student initiated the independent strategy of "attempt." The increased difficulty of text was relevant and included greater volumes of text and the appearance of novel vocabulary as indicated when comparing Time II to Time III. When students had positive results and showed self-regulative ability, they tended to remember what worked and tried to attempt the same behaviors in other situations (Clay, 1993b).

Pete, Bill, and Sue originally had very low assessment scores but were offered opportunities for functional independent behaviors, such as matching the names of animals to that page's illustrations in the Time I. They remained for a full program and learned to read independently. They practiced being readers from the beginning of their programs and were independent readers when they finished the second semester. In June, they had maintained their independent behaviors without individual support as their text level reading scores increased. Clay calls this pushing the boundaries of their own learning (Clay 1990). The examples of fostering behaviors in the dyad were observable across the data. A key factor was manageable instruction within each student's zone of proximal development maintained by teacher scaffolds.

Teacher Behaviors

As referenced in the Reading Recovery training books (Clay, 1979b, 1993b), the teachers teach students reading strategies throughout the lessons and in other ways support their learning by helping them think strategically to solve reading problems. Question 2 asks:

> What teacher behaviors exhibited during the orientation conversations and first attempt to read the new book reflected fostering growing independence within a Reading Recovery lessons?

The teachers observed began instruction by teaching students to expect meaning in the stories, help form items of knowledge such as letter/sound relationships, vocabulary, searching for cues, cross checking cues, and using reminders to employ behaviors they knew to maintain control of the process. During lessons, when the students either read familiar books or that day's new book, the teachers scaffold the learning with specific prompts for the strategies they expected the student to know and be able to apply. (See Appendix D.)

The teaching scaffolds were performed in the student's zone of proximal development as evidenced by subsequent successful reading. The scaffolds included behaviors such as; teacher/student task sharing, teacher guidance to keep the student on task, teacher feedback that certain student efforts were successful and why, teacher prevention of frustration and dependence on the teacher, teacher modeling, and prompts to activate prior knowledge in applicable situations such as questions like, "does it look right and sound right?" The teacher's goal was to keep the tasks manageable and guide the student to do the reading work. In every stage, teacher hypotheses about the learner's understandings affected choices of prompts or other scaffolds critical for student success.

An example was in the Time I lessons. Each teacher "taught" a word prior to the book orientation. This preteaching was not an established Reading Recovery procedure. The words taught were "and, "can," "can't, and "this is." The students had difficulty with the words: Pete had problems with "and," Bill did not write "can" but wrote "and" when asked at the end of the lesson, and Sue paused before she read her first sentence that started "This is . . ." Gwen had to help her. None of the teachers continued preteaching words. The activity did not appear to be a powerful scaffold for learning, and perhaps it was not in current zones of proximal development. In other situations, the teachers continually faded successful scaffolds by degrees as the need for them decreased (Wood, Bruner & Ross, 1976; Clay, 1979a, 1991a).

In Reading Recovery, prompts are specific phrases or statements to give direction to the student while teaching that choices are motivated by goals. Liz in Time I provided an encompassing example of helping a student unite language and visual information. Pete had trouble with the sentence pattern of the text, <u>Painting</u> (Appendix I). He said the word "and" once, got confused, and said a different word. Liz had him reread and she said "and" with him to plant the word in his memory. Later, although he hesitated or misspoke, he self-corrected and read "and" appropriately in subsequent sentences. In this case Pete, was supported in behaving like a reader although he did not understand the whole task. In time, more and more of the task became known and controlled by the student. A few other examples of scaffolds from Time I to Time III are below.

a.   The teacher encouraged the student to bring what he knew to the task. In Time I, each student's book had a dependable language pattern and simple illustrations that supported the text. The teacher pointed out this support before reading began. Then the teacher provided whatever was required for the student to have the experience of being a reader. (Example: In <u>Painting</u> Liz told the correct words for the miscues "and," "cupboard," and "then" and initiated a shared reading of the last line of text to help Pete get a sense of the book language and read the text.)

b.   Teachers made careful text selections as a scaffold for independent behaviors and then they offered prompts to help the student through difficulties. (Example: Gwen chose <u>The Loose Tooth</u> because Sue had talked about her own loose tooth.)

c.   Early, the teacher allowed some meaningful errors or approximations to support student independent reading. (In the book <u>Painting,</u> Liz did not directly correct Pete for saying "Mommy" instead of "Mom" but did use the correct word herself.) Later, the teachers expected the students to accomplish more and more of the tasks as they learned necessary strategies and monitoring techniques. (Example: Gwen took Sue through the process of figuring out the word "showed" in Time III step by step.)

d.   The teacher participation diminished as the students gained control and began to self regulate their behavior, find their own solutions to tasks quickly, and require less time to resume fluent reading of the text. (Example: Nell limited her participation in the story <u>Help Me</u> and let Bill read, discover errors, and make his own self-corrections.)

The teachers documented their students' development. These teachers intentionally stayed within their students' zones of proximal development as determined by students' successful implementation of reading behaviors indicating that instruction was appropriate. An example of how well the teachers learned to observe and interpret students' behaviors came from the prompt Try That Again (TTA), which was rarely used before Time III. When TTA was used, it suggested two things to the student: what you are doing is almost correct, and I know you can do it yourself. Table 26 gives a view of this overtime.

Table 26. Pete: Try That Again (TTA) Prompts

Time	Line	TTA Prompts	
		Student	Teacher
Time I		No TTA Prompts	
Time II	12	R, M, S, , S, M, ATT, QM, ATT	QM-HV, QV-MC, TTA
	19	R, M, SC, Rer	QM, TTA
Time III	2	ATT, SC	TTA
	13	R, M, SC, SC, Rer	TTA
	14	R, ATT, Rer	E, T, TTA,
	23	R, MC, B, S, S, M, Rer, Rer	CL, TTA (2)
Note: See Appendix K for complete record.			

In Time I, there are no TTAs. In Time II, TTAs were used to firm up reading work that had occurred within the dyad. In contrast, in Time III, Pete did most of the work before a TTA and reread or self-corrected after the TTA prompt. These examples showed the gradual refinement of teacher judgment and student use of less supportive teacher prompts for independent problem solving on text. The teacher's judgments were in the student's zone of proximal development if the prompts were minimal, resulted in successful reading work, and helped the student be independent.

Student Growth Over Time

A number of variables must be considered when looking for student growth over time, the guiding question was Question 3:

What evidence of identifiable shifts in a student's program reflected growing student independence?

Some student developmental growth was indicated because the books attempted became longer and more complex in terms of vocabulary and language conventions. Others changes were noted when students learned the strategies and vocabulary to solve reading problems and read. Some of the observed behavioral changes were specific to this study. A change that was expected was observed: As the lessons progressed, teachers gave fewer prompts and students knew more about what to do, did their reading work, and read larger chunks of higher-level text independently. This was true to a point, but these were instructional lessons intended to catch students up to their peers, so material was continually offered at the next highest level and more was to be learned.

An unexpected finding in the study was the relationship of independent to assisted behaviors observed across each student's program. Logic would suggest that students became more independent in their ability to apply strategies that helped them solve reading problems. This was borne out by the study. As already mentioned, there were opportunities for students to behave as functionally independent readers from the beginning of the instructional program. The text and task demands placed on them were artfully crafted into manageable pieces during book orientation

scaffolds by teachers who gave the students support for success regardless of their limited experience with text.

The data in Table 27 show that the teachers' book orientations and other scaffolds enabled the students to have equal or more experiences reading text and being independent than being assisted at reading. This suggested that the reading work stayed in the student's zone of proximal development and the social context of learning was fostering independence from the beginning (Vygotsky, 1978; Clay, 1991a; Clay, 1993b). What the students relied on to be independent in Time I was: story knowledge, one-to-one matching of word spoken to word in text, initial letter/sound relationships, and memory of the teacher's orientation to the story. This helped the students to act like readers from the beginning. (Clay, 1991c).

Table 27. The Ratio of Independent to Assisted Behaviors

Behaviors	Student Behaviors								
	Pete			Bill			Sue		
	Time			Time			Time		
	I	II	III	I	II	III	I	II	III
Behaviors	I:A	I:A	I:A	I:A	I:A	I:A	I:A	I:A	I:A
Ratio	2:2	34:4	22:6	7:1	17:12	14:1	7:2	6:2	12:4
	Behavior During Book Orientation								
	AD	AD	AI	AD	AI	AI	AD	AD	AI
	Number Exhibited of Behaviors During First Attempt								
Assisted	7	1	4	0	7	0	1	1	1
Assisted Dependent	0	2	3	0	3	1	0	2	2
Assisted Independent	0	5	7	0	3	1	1	2	2
Independent Reading	5	15	10	8	5	1	4	6	12
Self-Correction of Miscues*	4	5	9	2	5	17	0	3	10
* I = Independent A = Assisted Note: The support was collapsed into either assisted or independent for the sake of simplicity									

During Time II, the students had more ability and could read longer, higher-level books. Occasionally, the instruction left a student's zone of proximal development. This happened with Bill and Nell in Time II when Bill complained that the book was too hard. He began Time III with the same complaint. In these situations, as shown by Nell and Bill, effort was made through encouragement, stronger support, and confirmation of good work to resume student independent reading. A measure meant to indicate that work was within the student's zone of proximal development was the 1:10 or better ratio of word errors to total text. When the text was too difficult, more than 1:10 words were missed and lack of comprehension of the material interfered with the reader's ability to monitor and perform independently on text. Teachers always recorded this indicator on their running records. The teachers also looked at another ratio, the self-correction rate. A 1:4 self-correction ratio indicated that the student had control of the text and could self-correct one out of every four errors and often more.

In this study, scores for both the first attempt and the next day in the running record were important. In Time I on the running record, Bill applied a strategy to correct his error. The others did not do so. During Time II, the self-correction rate improved, and it improved even more in Time III. The word error rate and self-correction ratio were noted. This was important to the study, because by looking at the growth between the first attempt and the next day's running record, growth in reading and the independence the student displayed on that one book could be seen.

In Table 28, examples of emerging independent behaviors are provided. Here, the books introduced in the sessions were catalogued including the level, word count, miscues, self-correction ratio, and the error rates. This was followed by the next day's running record of the same book. (During the running record the teacher left all of the reading work to the student for independent processing, and the teacher recorded all the behaviors the student used as he read the text.) The students generally improved after their first attempt and were more independent on the next day's running record. The chart showed students as emergent readers who became sophisticated correctors of their reading errors. Self-correction was a key factor for the determination of increased student independence.

Table 28. Survey of First Attempt and Running Record Assessments.

Time I								
Student	Text 1st Attempt	Level	Words	Errors	Error Rate	Next Day's RR%	Error Rate	SC
Pete	Painting	3	24	8	1:3	91%	1:13	nil
Bill	I Can Jump	4	40	1	1:40	100%	1:40	1:1
Sue	Homes	2	51	3	1:17	96%	1:25	nil
Time II								
Student	Text 1st Attempt	Level	Words	Errors	Error Rate	Next Day's RR%	Error Rate	SC
Pete	Go Back to Sleep	8	74	6	1:12	91%	1:13	1:5
Bill	Going Shopping	10	112	21	1:5	94%	1:15	1:2
Sue	Good for You	5	44	6	1:7	98%	1:44	nil
Time III								
Student	Text 1st Attempt	Level	Words	Errors	Error Rate	Next Day's RR%	Error Rate	SC
Pete	Cow up a Tree	13	169	18	1:9	98%	1:50	1:2
Bill	Help Me	12	170	18	1:9	98%	1:85	1:1
Sue	The Loose Tooth	12	152	16	1:9	94%	1:17	1:4

Note: SC = Self-correction ratio.

In Time I, the students did few self-corrections in their first attempts. In Time II, there were errors when the students did their first attempt reading. The next day when the running record was taken the students read with fewer errors and students often had a 1:4 or better rate in their self-correction ratios. In Time III, students were more successful at reading continuous text during the first attempt. The next day's running record showed more reading success. (Refer to Appendixes K, L, M.) for full data summary of teacher and student behaviors.)

The books used might be difficult for students for numerous reasons such as stilted language, novel vocabulary, or foreign concepts. Longer books either helped the student improve if text repetitions supported learning and the students learned more about reading while reading the text or caused confusion by continuous difficulties interfering with comprehension. Book format clearly supported or hindered the reading experience for the student depending on individual knowledge and background. An example was Bill in Time II with a text called Going Shopping. The sequence of items bought was not in Bill's experience. The text format did not to keep Bill from getting confused. However, the next day the running record was successful so during the first attempt Bill had learned what he needed to be able to read the text.

Shorter books like I Can Jump created problems as well. Students might memorize the text if the orientation was detailed which caused opportunities to learn about reading to be sacrificed. Bill in Time I read his patterned book and make one self-correction. It looked like a very successful lesson. However, immediately after the reading he could not recall "can" or "can't". These were the teaching words before the orientation and they occurred on every page of text. He had said them but not read them or learned them. His self-correction was based on the language pattern and illustrations of the text instead of reading work. He used functional independence to keep his reading going.

In the Time III, students were expected to finish their programs soon and they were reading their highest-level texts. The limited number of recorded word errors and work on those errors suggested that the students had mastered the acquisition of current vocabulary, of the reading strategies, and they used their knowledge to solve their reading problems on text. Helpful to understanding this observation was a review of the number of words in a given text related to the number of student acts. At early times, students had problems with a large percentage of the vocabulary in the texts and some words were repeated problems. Later, the total vocabulary of the texts increased while word errors decreased. An example of this is seen in Table 29.

Table 29. Pete: Relationship of Text Words to Student Acts.

Time	Text Level	Text Words	Student Behaviors
I	3	24	33
II	8	74	54
III	13	169	88

At higher levels, the student became more independent and had acquired more reading knowledge and had more opportunities to read continuous text and learn about reading process as less time was spent solving reading problems. Observing students and reviewing background documentation suggested that student's reading development occurred by appropriation not transfer of reading knowledge. This is supported by findings of others (Rogoff, 1990; Clay, 1999; Wood, 1998) and suggests another value in fostering student independence. The students" reading maturity was also assessed by the ability to slow down reading, correct a miscue, and then resume fluent reading (reading at a conversational pace which is meaningfully phrased and fluent). Earlier problem words that were repeated in the text caused correction behaviors to be repeated. Later, a student was more likely to hold the word in memory once he used strategies to read it. (See Appendix N.)

Teacher Interviews

Teacher Interviews were conducted during the study. The intentions of the interviews were to see if the teachers perceived the lessons the same way the researcher did and if teachers referred to student independence in terms of their lessons. The intention was never stated to the teachers. The interview sessions were held either following the taping or on a separate day. The format for these interviews included looking at the current video with the teacher, discussing the lesson both while observing the tape, and after the tape ended. The teachers requested that the discussion not be recorded. The only notes of these events were created after the sessions ended. In terms of investigative rigor this was not ideal, but it was informative since teachers shared their concerns about the lessons.

Discussion made it clear that each teacher felt responsible for student success. The teachers were concerned about how well they taught, the student's behaviors, and how well the student performed on text. Their focus was reading ability. The teachers rarely spoke about how independent the student appeared. The teachers were insightful, reflective, and self-critical as they shared how they planned to shift instruction to better support the student. Gwen said that she pushed for student self monitoring. Nell stressed reading fluently as the key and complained that the Time II lesson was hard for Bill. Liz wanted to be told everything she did "wrong" and was aware that difficult reading did not encourage independence. Liz talked of how she handed more of the book orientation over to Pete and he did it well. The general assessment was that these were reflective tutors concerned with how they delivered instruction for student learning. Their comments supported the observed data.

Observation Survey

The students were pre-tested, post-tested, and had follow up testing in June with the Observation Survey. This included a text reading assessment to determine each student/s level of independent behaviors. Text Reading (TR) was important since it showed the application of the items of knowledge and the use of strategies as well as the integration of all processes into the successful delivery of fluent oral reading. Originally, two of the three students did not read. Table 30 contains the results of assessment to discontinue students. To qualify to discontinue the student must know how to use strategies to solve reading problems and be an average or better reader in

his classroom. Successful discontinuing depended on the judgment of the classroom teacher as well as the Reading Recovery teacher.

Table 30. Observation Survey Assessment Scores.

Assessment Area	Student								
	Pete			Bill			Sue		
	B	E	J	B	E	J	B	E	J
Letter ID (54)	38	54		42	53		30	52	
Word Test (20)	0	17		0	13		0	14	
Concept/Print. (24)	14	21		12	22		8	19	
Writing Vocab.	2	43	48	3	80	90	2	40	49
Dictation (37)	2	34	34	93	31	37	3	34	36
Text Reading	2	12	14	B	14	16	A	12	14
Student Discontinued	Yes			Yes			Yes		

KEY:
Letter Identification: Upper and lower case letters and extra versions of g and a.
Word Test: Word test of a twenty word list which changed at each testing session. (Note that words in a list was not considered critical since the list came from a basal not in use in the school system.)
Concepts About Print: 24 opportunities to identify different forms of text knowledge.
Writing Vocabulary: Students wrote known words for 10 minutes.
Dictation: Students wrote words in a sentence as dictated by the instructor.
Text Reading: Students read little stories leveled by a national standard.
B: Beginning assessment completed before instruction began.
E: Assessment completed at the end of the student's instructional program.
J: Follow up assessment when the school year was completed in June.

Pete, Bill, and Sue had low entry scores in September and were successful readers in June. To compare the relationship of independent and assisted learning behaviors with the text reading scores, the students' "behaviors were compared to the text reading scores across their programs. A comparison of the students" independent behaviors and text reading (TR) scores from the Observation Survey is provided in Table 31.

Table 31. Comparison of Text Reading Scores to Independence Scores.

Pete			
Independent Behaviors	Time I	Time II	Time III
Assisted independent	0	5	7
Independent reading	5	12	10
Independent self-correct	4	5	8
Observation Survey Tests	September (Before Time I)	February (Before Time III)	June (After Time III)
Text Reading	2	12	14

Bill			
Independent Behaviors	Time I	Time II	Time III
Assisted independent	0	3	1
Independent reading	8	5	32
Independent self-correct	1	6	16
Observation Survey Tests	September (Before Time I)	February (Before Time III)	June (After Time III)
Text Reading	B	12	16

Sue			
Independent Behaviors	Time I	Time II	Time III
Assisted independent	1	2	2
Independent reading	4	6	12
Independent self-correct	0	4	11
Observation Survey Tests	September (Before Time I)	February (Before Time III)	June (After Time III)
Text Reading	A	12	14

Independent: independent, no teacher support
Assisted independent: needed teacher support
Time I: early instructional program
Time II: midway in instructional program
Time III: end of instructional program TR" Text Reading in September, February and June

Synopsis

Observation of the new book introduction section of the Reading Recovery lessons produced examples of independence in reading as it developed. Student instructional independence developed across lessons as students learned strategies while reading texts within a social context of learning that supported learning necessary for reading success. As the students learned, the teachers continually offered higher and higher leveled texts and new variations of the reading process. The students showed not only independent behaviors but also several forms of independence, such as: (a) functional independence which means that students used what they knew in the early lessons; (b) independence because of instruction and learning in the social context about strategies and how to build on earlier learning; (c) independence indicated by application of learning in new contexts with new versions of taught behaviors; and (d) the development of a disposition for independence that encouraged students to intentionally go beyond what they were taught.

That the student developing independence from Time I to Time III was apparent as instructional learning progressed. The student-initiated attempts (ATTs) were important behaviors to observe. Also important were self-corrections and monitoring. These each suggested ways the students took over the task of reading.

The teachers worked to establish intersubjectivity and relied on their observations, prompts, and exploratory conversations with the students to help students solve problems. The result of good teacher evaluation was to provide sensitive interactive scaffolds for student efforts. One interesting student prompt observed was Try That Again. This prompt suggested that a miscue had occurred and that the teacher believed the student could find and solve the problem.

The teacher scaffolds created opportunities for the student to be independent. Originally, the students needed support, but this decreased with experience. The students learned from instruction and reread the new book more successfully on the second day than during the first attempt. In the beginning, the students rarely self-corrected miscues. As lessons progressed, self-corrections increased and errors decreased, especially repeats of word errors within a text. The students did not automatically learn what they were taught and sometimes several efforts occurred before appropriation of new knowledge occurred.

Language seemed critical to success. Teachers talked to understand what students were doing, to identify zones of proximal development, and to help students solve problems when they struggled. Students talked about strategies they employed and sometimes asked for feedback. Both teachers and students talked about the stories.

Other informative areas were the teacher interviews and assessment testing. In the teacher interviews, there was limited structure that influenced the information received from the teachers about their concerns regarding their students and their teaching. When the Observation Survey and strategic reading work were compared to assess independence, overall the gains were compatible. It is assumed that fostering student independence accelerated the gains of the students. This belief

is shared by others (Clay, 1991a).